UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,295	08/20/2003	Sanjay Gupta	END920030025	6666

7590 02/09/2007	EXAMINER
Andrew M. Calderon Greenblum and Bernstein P.L.C. 1950 Roland Clarke Place Reston, VA 20191	RAYYAN, SUSAN F

	ART UNIT	PAPER NUMBER
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 November 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

1/31/07

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Arguments

1.   Applicant's arguments filed on November 22, 2006 have been fully considered.

2.   Applicant's arguments, see amendment (pages 7-14), filed November 22, 2007, with respect to the rejection of claims 1-25 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter have been fully considered and are persuasive. The rejection has been withdrawn.

3.   In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "non-relational database" (claims 1,18,25), "a server provides access and management control to a non-relational database", "reducing the view index size", "indexed at run time" and "server accepts database inquires from one or more clients and accesses the database accordingly and returns results of inquiry" are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4.   Applicant argues Yoshiyama does not teach marking a second set of columns within a view of a database as if the second set of columns were already sorted and categorized prior to actual sorting and categorizing of the second set of columns. Examiner finds Yoshiyama does teach this limitation in a manner similar to the

Applicant's claim language. Yoshiyama at paragraph 35, lines 6-15 teaches determining

whether an index satisfies retrieval conditions. If an index does not exist which satisfies

the retrieval conditions a new index is generated. The retrieval conditions which are not

met and not used to generate the new index would correspond to a marking of a second

set of columns as already sorted. Not indexing is similar to the applicant's claimed

marking. Not indexing is marking tby default.

5.   Applicant argues prior art of record does not teach view of the database.

Examiner respectfully disagrees and finds this limitation at Shakib et al Figure 5.

6.   In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in

the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Shakib does not

explicitly teach marking a second set of columns within the view as if the second set of

columns were already sorted and categorized prior to actual sorting and categorizing of

the second set of columns, the second set of columns including all columns exclusive of

the first set of columns. Yoshiyama does teach this limitation at parg. 35 lines 6-15 to

speed up data retrieval at parg.10. It would have been obvious to one of ordinary skill in

the art at the time of the invention to combine the cited references to speed up data

retrieval (Yoshiyama: parg.10).

7.   Applicant's arguments with respect to the rejection(s) of claim(s) 7-17 under 35

U.S.C. 103(a) as being unpatentable over Shakib et al (US 5,752,025) and Yoshiyama

et al (US 2002/0120617) and further in view of US Patent Number 6,065,011) issued to

Bulusu et al ("Bulusu") and under 35 U.S.C. 103(a) as being unpatentable over Shakib

et al (US 5,752,025) and Yoshiyama et al (US 2002/0120617) and US Patent Number

6,065,011) issued to Bulusu et al ("Bulusu") and further in view of Wilkes et al (US

2003,0088739) and further in view of Wilkes et al (US 2003,0088739) have been fully

considered and are persuasive (Applicant argues Belusu does not teach non-relational

database) Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of 35 U.S.C. 103(a) as being

unpatentable over Shakib et al (US 5,752,025) and Yoshiyama et al (US 2002/0120617)

and further in view of US 2001/00156428 issued to Kimberly Lynn Gajda at al (Gajda")

and under 35 U.S.C. 103(a) as being unpatentable over Shakib et al (US 5,752,025)

and Yoshiyama et al (US 2002/0120617) of US 2001/00156428 issued to Kimberly Lynn

Gajda at al (Gajda") and further in view of Wilkes et al (US 2003,0088739) and further

in view of Wilkes et al (US 2003,0088739).

        See rejection below.

DETAILED ACTION

8.   Claims 1-25 are pending.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-6,18,20-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Shakib et al (US 5,752,025) and Yoshiyama et al (US

2002/0120617).

As per claim 1 Shakib teaches:

sorting and categorizing a first set of columns within a view of the database at col.3,

lines 65, bridging to, col.4, line 3 and Figure 5 (database view).

        Shakib does not explicitly teach marking a second set of columns within the view

as if the second set of columns were already sorted and categorized prior to actual

sorting and categorizing of the second set of columns, the second set of columns

including all columns exclusive of the first set of columns. Yoshiyama does teach this

limitation at parg. 35 lines 6-15 to speed up data retrieval at parg.10. It would have

been obvious to one of ordinary skill in the art at the time of the invention to combine the

cited references to speed up data retrieval at parg.10.

As per claim 2 same as claim arguments above and Yoshiyama teaches:

further comprising the step of sorting and categorizing at least one column of the

second set of columns in response to performing a query on the at least one column at

parg. 35, lines 10-12.

As per claim 3 same as claim arguments above and Yoshiyama teaches:

including establishing a mini-index indexing the at least one column of the second set of

columns at parg. 46, lines 11-17.

As per claim 4 same as claim arguments above and Yoshiyama teaches:

including accessing the mini-index to provide increased performance at parg. 46, lines

11-17.

As per claim 5 same as claim arguments above and Yoshiyama teaches:

including monitoring parameters of the mini-index, and as a result, performing one of

deleting, updating, and recreating the mini-index at parg. 46, lines 11-17.

As per claim 6 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number

of categorized columns, a number of records that can be accessed in a view, an

average number of records per category, and an average number of records per

hierarchy at parg. 46, lines 15-17.

As per claim 20 same as claim arguments above and Yoshiyama teaches:

 establishing a mini-index indexing the at least one column of the second set of columns

at parg. 46, lines 11-17.

As per claim 21, same as claim arguments above and Shakib teaches;

Including a component to access the mini-index by a server (column 4, lines 42-49).

As per claim 22 same as claim arguments above and Yoshiyama teaches:

monitor parameters of the mini-index, and as a result, performing one of deleting,

updating, and recreating the mini-index at parg. 46, lines 11-17.

As per claim 23 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number

of categorized columns, a number of records that can be accessed in a view, an

average number of records per category, and an average number of records per

hierarchy at parg. 46, lines 15-17.

As per claim 24, same as claim arguments above and Shakib teaches:

...permits clients to see the second set of columns and to issue a query on the at least

one column of the second set of columns (at column 3, lines 43-49, remaining set of

fields are used for viewing and sorting and column 4, line 1, indexes are created based

upon user demand) .

Claims 18,25 are rejected based on the same rationale as claims 1-2.

11.   Claim 7,10-13,17 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Shakib et al (US 5,752,025) and Yoshiyama et al (US 2002/0120617) and

further in view of US 2001/00156428 issued to Kimberly Lynn Gajda at al (Gajda").

As per claim 7 Shakib teaches:

 sorting and categorizing a first set of columns within a view of the ... database at col.3,

lines 65, bridging to, col.4, line 3, Figure 5, database view).

Shakib does not explicitly teach marking a second set of columns within the view

as if the second set of columns were already sorted and categorized prior to actual

sorting and categorizing of the second set of columns, the second set of columns

including all columns exclusive of the first set of columns and sorting and categorizing

at least one column of the second set of columns in response to performing a query on

the at least one column. Yoshiyama does teach this limitation at parg. 35 lines 6-15 to

speed up data retrieval at parg.10 and sorting and categorizing at least one column of

the second set of columns in response to performing a query on the at least one column

at parg. 35, lines 10-12 to speed up data retrieval at parg.10. It would have been

obvious to one of ordinary skill in the art at the time of the invention to combine the cited

references to speed up data retrieval at parg.10.

Shakib teaches a database. Shakib and Yoshiyama do not explicitly teach a non-

relational database. Gajda does teach a non-relational database at paragraph 2, line3

are an important tool for storage and management of information for businesses. It

would have been obvious to one of ordinary skill in the art at the time of the invention to

modify Shakib and Yoshiyama with a non-relational database for storage and

management of information for businesses (paragraph 2, lines 1-2).

As per claim 10 same as claim arguments above and Yoshiyama teaches:

establishing a mini-index indexing the at least one column of the second set of columns

at parg. 46, lines 11-17.

As per claim 11 same as claim arguments above and Yoshiyama teaches:

including accessing the mini-index to provide increased performance at parg. 46, lines

11-17.

As per claim 12 same as claim arguments above and Yoshiyama teaches:

including monitoring parameters of the mini-index, and as a result, performing one of

deleting, updating, and recreating the mini-index at parg. 46, lines 11-17.

As per claim 13 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number

of categorized columns, a number of records that can be accessed in a view, an

average number of records per category, and an average number of records per

hierarchy at parg. 46, lines 15-17.

As per claim 17, same as claim arguments above and Shakib teaches:

...permits clients to see the second set of columns and to issue a query on the at least one column of the second set of columns (at column 3, lines 43-49, remaining set of fields are used for viewing and sorting and column 4, line 1, indexes are created based upon user demand).

12.   **Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shakib et al (US 5,752,025) and Yoshiyama et al (US 2002/0120617) and further in view of Wilkes et al (US 2003,0088739).**

As per claim 19 same as claim arguments above and Shakib and Yoshiyama do not explicitly teach ...including a component to sort and categorize the at least one column of the second set in a portion of a cache and assign the first set of columns to another portion of the cache. Wilkes does teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65, lines 1-3.

13.   **Claims 8-9,14-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shakib et al (US 5,752,025) and Yoshiyama et al (US 2002/0120617) and US 2001/00156428 issued to Kimberly Lynn Gajda at al (Gajda") and further in view of Wilkes et al (US 2003,0088739).**

As per claim 8 same as claim arguments above and Shakib and Yoshiyama and Gajda do not explicitly teach ... assigning the first set of columns to a portion of a cache. Wilkes does teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65, lines 1-3.

As per claim 9 same as claim arguments above and Shakib and Yoshiyama and Gajda do not explicitly teach ... in another portion of the cache. Wilkes does teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65, lines 1-3.

As per claim 14 same as claim arguments above and Shakib and Yoshiyama and Gajda do not explicitly teach ... including maintaining the first set of columns in a portion of cache. Wilkes does teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65.

As per claim 15 same as claim arguments above and Shakib and Yoshiyama and Gajda

do not explicitly teach ... including maintaining the at least one column of the second set

of columns in another portion of cache. Wilkes does teach this limitation at parg. 62, 64

and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the cited references to improve the rate at which the insertion point

in the cache metadata structure may be found at parg. 65, lines 1-3.

As per claim 16 same as claim arguments above and Shakib and Yoshiyama and Gajda

do not explicitly teach ... further including sizing the another portion of cache depending

on the size of the at least one column of the second set of columns. Wilkes does teach

this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary

skill in the art at the time of the invention to combine the cited references to improve the

rate at which the insertion point in the cache metadata structure may be found at parg.

65, lines 1-3.

Contact Information

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Susan Rayyan whose telephone number is (571) 272-

1675. The examiner can normally be reached M-F: 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone

number for the organization where this application or proceeding is assigned is

703-872-9306.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Rayyan

January 31, 2007

JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
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